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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE 372nd MEETING

Held at Headquarters, New York,
on Friday, 19 June 1992, at 10.30 a.m.

Chairman:	Mr. MUNTEANU (Vice-Chairman)	(Romania)
later:	Mr. HOHENFELLNER (Chairman)	(Austria)

- Organization of work
- Report of the Scientific and Technical Subcommittee on the work of its twenty-ninth session (continued)
- Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space

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In the absence of the Chairman, Mr. Munteanu (Romania), Vice-Chairman, took the Chair.

The meeting was called to order at 10.50 a.m.

ORGANIZATION OF WORK

The CHAIRMAN: The Committee will continue today its consideration of agenda item 7, Report of the Scientific and Technical Subcommittee on the work of its twenty-ninth session and item 9, Implementation of the recommendations of UNISPACE 82. I should like to inform the Committee that it is the Chair's intention to begin consideration of agenda item 8, Report of the Legal Subcommittee on the work of its thirty-first session, on Monday morning, as soon as we have concluded our list of speakers for agenda items 7 and 9. I would urge those wishing to speak on agenda item 8 to inscribe their names on the list of speakers as soon as possible.

REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS TWENTY-NINTH SESSION (A/AC.105/513)(continued)

IMPLEMENTATION OF THE RECOMMENDATIONS OF THE SECOND UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

Mr. RIBEIRO (Brazil): My delegation wishes to thank the Expert on Space Applications for the thorough and useful statement he delivered yesterday on the ongoing and future activities of the Space Applications Programme. In particular, my delegation has taken note of the remarks on the evaluation Mission that has just been sent to those countries interested in hosting the Centre for Space Science and Technology Education for Latin America and the Caribbean. My delegation looks forward to receiving a follow-up report in the near future.

We are convinced that the initiative constitutes an important step in the enhancement of the indigenous capacity of developing countries through a

(Mr. Ribeiro, Brazil)

regional approach. My delegation considers that such regional initiatives are to be welcomed, particularly when these activities are aimed at strengthening international cooperation on an equitable and non-discriminatory basis through commitments that are mutually acceptable to all parties concerned. Like other delegations from Latin America, my delegation welcomes the Chilean initiative to host the Second Space Conference of the Americas, in the footsteps of the Conference held in San Jose in 1990. The results of the Costa Rica meeting are being carefully examined by space experts in Brazil and should constitute a useful reference for the objectives to be aimed at in Chile. We therefore reiterate our interest as expressed in the report of the thirty-fourth session of this Committee in Graz and contained in the relevant paragraph of resolution 46/45. We look forward with interest to the consultations to be carried out by the Chilean Government on the scope, objectives and agenda of the proposed conference.

Finally, my delegation would like to underscore once again the importance it attaches to the furtherance of international cooperation in space activities at the bilateral, regional and multilateral levels by means of transparent, equitable and mutually beneficial access to space benefits and technologies for the promotion of the socio-economic development of all nations.

Ms. ZHENG Lizhong (China) (interpretation from Chinese): Mr. Chairman, the Chinese delegation wishes, through you, to pay tribute to Professor Carver, under whose chairmanship the Scientific and Technical Subcommittee did fruitful work at its twenty-ninth session and made good progress in the consideration of its agenda. We take this opportunity to commend that achievement.

(Ms. Zheng Lizhong, China)

In this International Space Year, which was proclaimed by the General Assembly at its forty-fourth session, and in the tenth anniversary year of UNISPACE II, the Chinese delegation would like to express great appreciation to the United Nations bodies that have effectively promoted the Space Applications Programme. Through the 18 long-term scholarships provided by various countries and international organizations, the Programme was able in the year under review to afford training opportunities to personnel from developing countries; it also co-sponsored seven workshops in space technology applications. These activities have unquestionably played a positive part in enabling developing countries to share in the benefits of space technology, acquire relevant experience and develop their expertise.

In its consistent support of the Space Applications Programme, the Chinese Government contributed two fellowships of one-year terms to the Programme in 1991 and by way of a contribution in kind, hosted in September 1991 in Beijing, under the auspices of the Economic and Social Commission for Asia and the Pacific (ESCAP) and the United Nations Disaster Relief Organization (UNDRO), the Workshop on the Application of Space Techniques to Combat Natural Disasters. The Workshop was attended by 72 representatives from 21 countries and international organizations, who reviewed the range of space techniques capable of helping developing countries combat sudden and unforeseen natural disasters; also considered were ground systems and geographical information systems that need to be developed to monitor and assess the changes and damage caused by natural disasters. The results of the Workshop have been published in document A/AC.105/494.

The Chinese delegation would like to take this opportunity to announce China's two new initiatives in support of the Space Applications Programme: six one-year fellowships in 1992 for developing countries in remote sensing,

(Ms. Zheng Lizhong, China)

cartography and geodesy; and $30,000 in cash to support activities of the Space Applications Programme and the International Space Year (ISY).

China supports the proposed regional education centres for space science and technology, and is ready to make the necessary contribution to hosting such a centre.

The Scientific and Technical Subcommittee has aptly highlighted for 1992 the theme of "Space Technology and the Protection of the Global Environment: Development of the Indigenous Capabilities of Countries, particularly of the Developing Countries in connection with the ISY".

(Ms. Zheng Lizhong, China)

The serious pollution of the global environment caused by excessive industrialization, droughts, soil erosion, desertification and the frequency of other natural disasters are now posing a grave threat to human survival and social and economic development. China has in recent years adopted space and aerial remote-sensing techniques in combination with other means to survey and map soil erosion in its country, and drawn up a soil-erosion map of the entire national territory on a scale of 1:2,500,000, and a map on a scale of 1:400,000 showing the distribution of deserts in North China. We believe that science and technology have advanced to the stage where space technology is poised to make a more substantial contribution to the protection of our global environment and the economic and social development of the developing countries.

The Scientific and Technical Subcommitee's special theme for 1993, namely "Space-based communication: the expansion of current services and increased understanding of new systems and the services they will make possible" is welcome to us. Communications are the prime mover of economic development in the developing countries. Satellite communications play a special and irreplaceable role in China because of our country's vast territory and complex topography. Satellite communications have become a major and reliable medium for China's international communications, which currently connect us to 46 countries and regions on five continents, and through relay to over 150 countries and regions all over the world. Before 1995, China plans to establish 19 surface stations with antennas over 13 meters in diameter as regional communications centres, laying the foundation of a nationwide long-distance satellite communications network. China will use very small aperture terminal technology to tackle communications problems in the autonomous region of Tibet and other remote areas, with a view to considerably

(Ms. Zheng Lizhong, China)

promoting economic and social development in China's remote and minority regions.

In recent years, China has made use of space and aerial remote-sensing technology, including satellite and airborne synthetic aperture radar technology, supplemented by satellite communications and geographic information systems, to confront the various kinds of natural disasters it tends to suffer, an effort that contributed greatly to fighting against the devastating flood of 1991 by providing forecasting and timely communications and thereby reducing losses. We are now in the process of building a national real-time remote-sensing disaster-monitoring and assessing system, as well as developing space-borne synthetic aperture radar for the next generation of all-weather remote-sensing satellites.

China is also successfully using satellite communications to provide televised education that can reach the most distant areas, in order to improve the standards and occupational skills of its population. Throughout the country, there are now over 30,000 satellite television-receiving stations. Two satellite transponders daily transmit 30 hours of educational programming that includes teacher training for secondary and primary schools, agricultural technology, televised university and high-school equivalency and vocational training curricula, and continuing education. Of these programmes, teacher training alone saves several billion yuan for the State budget each year. Telephone and telegram services, as well as data transmission, are also carried out by satellite communications.

Satellite communications is a new technology that is highly practical and widely applicable. It is our hope that the competent United Nations agencies will provide the developing countries with more new systems and useful technologies that are technically simple, inexpensive, and easy to

(Mrs. Zheng Lizhong, China)

master and to extend. China is willing to take the opportunity provided by the Programme on Space Applications to share its experiences with other countries. It also hopes to obtain more help from the international community in the use and development of satellite communications and in personnel training.

The problem of the pollution of outer space by space debris is becoming a growing concern for the astronautical and international communities. Outer space is a valuable natural resources that is the common heritage of mankind. To control and reduce space debris and protect outer space is an aspiration we all share, and the Chinese Government is very concerned about the issue. Some initial research has already been done by Chinese experts, whose report is contained in document A/AC.105/510/Add.1. We support the inclusion of an item on space debris on the agenda of the Subcommittee.

The year 1991 witnessed many spectacular achievements in space technology and space exploration - the successful launches of the European Remote Sensing Satellite (ERS-1), of Japan's Earth Resource Satellite (JERS-1), and of the former Soviet Union's ALMAZ satellite, all of which provide mankind with valuable radar data. The Chinese Government has made astronautics one of the priorities in its development of high technology. We are focusing on such application satellites as communications satellites, meteorological satellites, resource satellites, and recoverable satellites with a view to accelerating our economic and cultural development. In the next six months, China will use its CZ-2E launch vehicle to launch two communications satellites for Australia, and its CZ-2 launch vehicle to launch its thirteenth recoverable remote-sensing satellite, piggy-backing a Swedish telecommunications satellite. In the recoverable capsule of the recoverable satellite, experiments on the growth of relatively large-size gallium arsenide

(Ms. Zheng Lizhong, China)

crystals will be carried out, as well as experiments on plant seeds and species.

China values international cooperation with more countries and international organizations on the basis of equality and mutual benefit. Joint exploration and peaceful uses of outer space is a fundamental policy in China's development of space science and technology. It is also an important component in China's reform and opening up, a policy that we will continue to adhere to in the future.

In concluding, I should like to commend Dr. Abiodun, the United Nations Expert on Space Applications, for his efforts in promoting the Programme on Space Applications. I should also like to thank the secretariat of the Committee for the work it has done.

Mr. CHANDRASEKHAR (India): Our delegation would like to make a few remarks on the work of the Scientific and Technical Subcommittee at its twenty-ninth session and also on the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82).

The Subcommittee had a very extensive range of topics at its twenty-ninth session, and a considerable exchange of information through several scientific and technological presentions. Also, further understanding was achieved through the work of the two Working Groups. We note with appreciation that the special meeting organized to celebrate International Space Year and the Symposium on the chosen theme "Space technology and the protection of the Earth's environment" included several interesting presentations and discussions by distinguished persons and experts. We would like to place on record our appreciation and gratitude to the Committee on Space Research, the

(Mr. Chandrasekhar, India)

International Astronautical Federation, and the United Nations Secretariat for their support and to the speakers for their excellent efforts.

We note that the Working Group on nuclear power sources, which was reconvened at the last session of the Scientific and Technical Subcommittee, considered various outstanding questions in the light of the proposal for revising principle 3, which deals with guidelines and criteria for safe use. The deliberations have been useful in working towards solutions for early finalization of the total set of draft principles. We draw particular attention to the draft text for the preamble, and in this connection to a working paper generated by a number of delegations, including our own, which attempted to take care of the concerns of various delegations on this question. We note with satisfaction that this served as a useful basis for further discussions on nuclear power sources in the Legal Subcommittee.

(Mr. Chandrasekhar, India)

We stress the urgent need to finalize the draft principles, bearing in mind the enormous amount of work that has already been carried out. We consider that the Scientific and Technical Subcommittee could in future devote its attention to examining the scientific and technical aspects of various questions, such as the use of nuclear propulsion and so forth, which were raised at past sessions.

Our delegation reaffirms the importance of the United Nations Programme on Space Applications and of the contributions it has been making to assisting all nations, particularly developing countries, in spreading space applications more widely and in promoting greater cooperation. While supporting the Programme in the form recommended by the Scientific and Technical Subcommittee for the years to come, we should also like to emphasize the need for additional support to be given to it. We should like to place on record our appreciation for the efforts of the Secretariat and the Expert on Space Applications in their able implementation of the Programme.

We note with appreciation the efforts undertaken by the United Nations Office for Outer Space Affairs to establish Centres for Space Science and Technology Education in developing regions. We reiterate that, particularly taking into account the resource constraints of developing nations, the incremental financial resources required for the Centres should be made available through international institutions to fund the development efforts and facilitate the early establishment of the Centres.

If the implementation of the recommendations of UNISPACE 82 is to receive further impetus, it will be necessary to diversify the space applications programme further, for example, by facilitating the implementation in developing nations of certain hardware and software development projects, with space applications or space spin-offs in mind.

(Mr. Chandrasekhar, India)

In addition, there is a need for further growth in space information services. This would indeed call for additional resources to be placed at the disposal of the Office for Outer Space Affairs, but any additional activities could be considered on the basis that they would take place in a phased manner or project by project. We have a very good example of this in the assistance for International Year Space provided to the Office by the Government of Japan. This kind of assistance, if made available on a larger scale by various member nations, could assist in strengthening the Programme.

During the last session of the Scientific and Technical Subcommittee, a comprehensive review of the implementation of the recommendations of UNISPACE 82 was carried out by the Working Group. We also note in this connection, with appreciation, various background papers submitted by international organizations, including the United Nations and its specialized agencies, regarding the status of that implementation. We stress the urgent need to devote the Committee's attention to the various conclusions and recommendations of the Working Group; we draw particular attention to the need it expressed for additional financial support to be given to strengthening the Programme on Space Applications programme further and to ensuring the availability of timely assistance for the development of indigenous capabilities in the developing countries for the pursuit of beneficial space activities.

In regard to the implementation of UNISPACE 82 and the promotion of cooperation in space applications, India continues to take an interest, and to render support through its programme of assistance in training in space applications for other developing countries. India has a policy of making data from its satellites, such as the India Remote Sensing Satellite (IRS), available, and of supporting the United Nations and other forums, such as the

(Mr. Chandrasekhar, India)

International Astronautical Federation and the Committee on Space Research, for organizing programmes for the benefit of developing countries. Also, India is keenly interested in promoting regional cooperation, and participates actively in, and gives support to, various regional agencies and institutions engaged in the field of space applications.

In the context of International Space Year, we note with appreciation the various activities undertaken by the United Nations. We consider that these will assist in bringing the focus of attention onto the useful role of space in the protection of the environment and the promotion of further international cooperation. We have seen considerable interaction between various space agencies and international bodies in planning and conducting activities in a cooperative manner, and this spirit will be an important factor for the growth we envisage in international cooperation in the field of the peaceful uses of outer space, and particularly for encouraging wider participation by the large number of nations which are yet to benefit fully from space activities. We strongly urge that the United Nations actively encourage the continuation of the activities initiated for International Space Year, and further support extending these activities to involve more nations in them.

The maintenance of the space environment has been receiving more attention as space activities increase. On many past occasions, our delegation has emphasized the need to keep outer space free of pollution. The increasing quantity of debris in outer space, in certain bands in particular, causes all of us serious concern. We should urgently develop an international understanding on ways in which the amount of space debris can be kept to a minimum, so that it does not pose an unacceptable level of risk to other space objects.

(Mr. Chandrasekhar, India)

There is also a need to develop international cooperation in monitoring and in exchanging information. We note that concern about this subject is common to all delegations, and that many studies are being carried out and many efforts made by various space agencies. In International Space Year, it would be a very fitting gesture if we were to indicate our common concern, and cooperate on this subject by agreeing to include it in the agenda of our Committee, or the Subcommittee, for the very next session.

On the other agenda items dealt with by the Subcommittee, our delegation has already expressed its views on a number of occasions, and we shall therefore not repeat them here.

We consider that the theme chosen for the next session of the Subcommittee, namely, "Space-based communication: the expansion of current services and increased understanding of new systems and the services they will make possible", is quite relevant, in view of the great role of space-based communications in development, and we endorse it.

Mr. ERDENECHULUUN (Mongolia): As this is the first time my delegation has spoken at this session, I wish to take this opportunity to express our deep satisfaction at seeing Mr. Honhenfellner once more in the Chair for this session of the Committee. We are confident that, with his knowledge of the matters in hand and his wealth of experience, the deliberations of the Committee will be guided to success.

Our appreciation also goes to the Chairmen of the two Subcommittees, their Working Groups and the Secretariat staff for work well done during the latest sessions of the Subcommittees.

We extend our felicitations to the delegations of the various countries that have made new and outstanding contributions to the cause of the peaceful

(Mr. Erdenechuluun, Mongolia)

exploration and use of outer space and the promotion of cooperation for the benefit of all countries.

In many respects this is a very noteworthy and auspicious session of the Committee. The overall improvement in the international climate and the growing prestige of the United Nations augur well for an increasingly constructive attitude on the part of the Member States towards the issues on our agenda. The recently announced intention of the leaders of Russia and the United States to reduce stocks of long-range nuclear weapons drastically by the year 2003 provides us with yet another reason impelling us to double our efforts to preserve outer space for exclusively peaceful exploration and to generate wide-ranging international cooperation in this field.

The tenth anniversary of UNISPACE 82 was a fitting occasion for the Scientific and Technical Subcommittee to undertake, at its last session, a comprehensive assessment of the implementation of the UNISPACE-82 recommendations and identify priority areas in which our efforts should be intensified. My delegation fully supports the conclusions of the Working Group of the Whole, and calls for them to be submitted for adoption by the next session of the General Assembly.

The ongoing commemoration of International Space Year has already proved instrumental in demonstrating the substantial prospects offered by space technology for solving outstanding economic and social problems in general and problems in environmental and climatic monitoring in particular. Coupled with the efforts of the Earth Summit, national and international activities for International Space Year have definitely contributed to promoting greater cooperation and more exchanges of view and ideas among scholars and practical minds around the world.

(Mr. Erdenechuluun, Mongolia)

In that context, my delegation wishes gratefully to acknowledge the efforts of the sponsors and organizers of the symposiums held this year during the session of the Scientific and Technical Subcommittee and this Committee's commemorative meeting on International Space Year.

Mongolia's national programme for International Space Year has been focused mainly on the use of space technology for environmental monitoring. A series of studies related to early warning and the reduction of natural disasters and to evaluation of environmental and biological resources is currently being undertaken by Mongolian agencies. Concentrated efforts are being made to set up a catalogue of digitally processed images of Mongolia.

Special emphasis is being placed on keeping the broad public up to date on national and international activities related to International Space Year, as well as on involving Mongolia's higher-education establishments in space application efforts.

The Remote Sensing and Geoinformation Centre of Mongolia, in cooperation with the Earth Observation Satellite Company (EOSAT), organized a seminar last May on the application of remote-sensing data to geological and geophysical exploration.

We are pleased to inform the Committee that from 7 to 11 October this year the thirteenth Asian Conference on Remote Sensing will be organized in Ulan Bator by Mongolia's Ministry of National Development and the Asian Association on Remote Sensing. At the request of the organizers of the Conference, we extend an invitation to all interested States and organizations to attend.

(Mr. Erdenechuluun, Mongolia)

A review of the work of our two Subcommittees over the past year brings us first and foremost to the item on the elaboration of draft principles relevant to the use of nuclear power sources in outer space. My delegation is indeed gratified to note that progress was made in the efforts to forge a better understanding of the principles in question. My delegation, like many others, feels that the time is ripe for the adoption of those prihnciples. We doubt the advisability of reopening a draft principle agreed by consensus after many years of strenuous negotiations.

The draft text of the preamble, combined with the working non-paper prepared by the Legal Subcommittee's Working Group, constitutes in our view a much-needed basis for constructive discussions and possible compromise. It is the hope of my delegation that during its current session the Committee will finalize the principles on nuclear power sources for subsequent submission to the General Assembly at its forthcoming session.

I wish to state my delegation's support for the idea of including the issue of space debris, in conjunction with the question of nuclear power sources, on the agenda of the Scientific and Technical Subcommittee. In our view it is important in the first place to begin by applying our efforts to promote a better scientific and technical understanding of this phenomenon.

Over the years Mongolia has continued to attach priority to the United Nations Programme on Space Applications. We consider it to be an important activity aimed at enabling countries with a limited indigenous technological base and financial resources to develop their own space capability and acquire a sufficient degree of self-reliance in space technology to be applied for the economic and social benefit of their peoples.

(Mr. Erdenechuluun, Mongolia)

Here we wish to express our appreciation to the staff of the Office for Outer Space Affairs and the United Nations Expert on Space Applications for their sustained efforts, despite severe financial handicaps, to promote international cooperation, exchanges and training in the realm of the peaceful exploration and uses of outer space.

Once again the General Assembly placed consideration of ways and means of maintaining outer space for peaceful purposes on our agenda as a priority item. Yet once again, we have to admit that progress in our efforts to forge a broad consensus on this important item has been slow. We urge member States to build on the momentum created by the end of the cold war and start meaningful negotiations in the search for effective ways and means to maintain outer space for peaceful purposes only.

In conclusion, I wish to voice my delegation's support for the current efforts to streamline the working methods of the Committee and its Subcommittees. We hope that the timely initiative of the Legal Subcommittee to reduce its meeting time by one week will be followed by other related steps.

Mr. KOCH (Canada): My delegation would like to join others in thanking the Secretariat for the excellent report on the work of the Scientific and Technical Subcommittee. The report brings out some of the important issues in space science and technology and provides a good overview of the various peaceful uses of outer space. We found the report to be comprehensive, and we are pleased to see that the major activities of the Subcommittee were all included.

(Mr. Koch, Canada)

For the Canadian space programme the past year has been one of steady progress in our major projects: the mobile servicing system for the space station Freedom, the continuing work on the remote-sensing satellite RADARSAT, and the continuing work on communications satellites. The Canadian Department of the Environment is participating in the ozone-hole project, and the Canadian Centre for Remote Sensing is continuing its leading-edge work in its field of specialization.

Canada's main contribution to the International Space Year (ISY) - the International Global Change Encyclopedia, also called GeoScope - was demonstrated to the Science and Technology Subcommittee in February. This unique educational and information tool will be available in November.

The highlight of the past year was the participation of Canadian astronaut Roberta Bondar in the successful IML-1 shuttle mission. She participated in the Science and Technology Subcommittee session in February, together with her German and American colleagues.

The mandate of this Committee is to ensure that space technology will be used for the benefit of all mankind, and it is relevant to ask the question: How can this report of the Science and Technological Subcommittee be used to advance the work of this Committee? Some of the issues that have been raised in this regard are: the trend towards commercialization of space; the space environment; and public safety.

It is my delegation's view, the commercial profitability of a technology is the best guarantee that it will be transferred among countries. It has been Canada's historical experience that the vast bulk of the technology

(Mr. Koch, Canada)

that was transferred to our country was transferred through commercial channels. The space industry will no doubt remain a combination of publicly and privately financed projects for many years to come, but the private sector, under the right conditions, can transfer technology effectively and sustainably. Canada therefore views the increasing commercialization of space technology as a positive development.

Part of the ongoing work on the RADARSAT project was an analysis of the space-debris situation in the orbit the satellite will occupy. Using certain very conservative assumptions, the initial analysis showed that the probability of the satellite being knocked out of commission by space debris during its five-year life span was over 40 per cent. Several design changes have now been made to make the satellite more resistant to space debris, and using so-called worst-case, or pessimistic, assumptions, the probability of being knocked out is now about 10 per cent. I should emphasize that this type of analysis is not yet an exact science, and that a different set of starting assumptions would no doubt have given different results. However, this example does illustrate the price we are already paying for the space-debris situation.

(Mr. Koch, Canada)

The satellite will cost about Can$ 500 million, and if there is a one-in-ten chance that it will be knocked out during its five-year life span, the cost could be construed as $50 million. Increasingly, space agencies will need luck as well as a high level of technical competence in order to make their projects succeed.

As space technology is maturing and some aspects of it are turned over to the private sector Governments and international organizations will increasingly be called upon to safeguard the public interest and to ensure that the environmental costs of space technology are borne by those who use it.

There is a similarity here with environmental problems on Earth, in that environmental-protection measures can raise the cost of products or projects, and government regulation is required to ensure that these additional costs are assumed by producers. In outer space the public interest is, in fact, the interest of all the passengers of Spaceship Earth, and international regulation is required to ensure that the added costs necessary for environmental protection are assumed by the users of outer space. Many delegations have already referred to this important issue. If the international community does not act now, large areas of outer space may become unusable during the next 20 to 40 years.

The Committee has already discussed the issue of public safety very extensively. I think we all agree that it is not a benefit to mankind if man-made space objects return to Earth and threaten public safety - and the problem is worse if there is a nuclear-power source on board. The psychological impact on the general public can be considerable. During the past 15 years there have been three separate occasions when large satellites that were no longer under control returned to Earth, and the media provided

(Mr. Koch, Canada)

regular reports to an anxious public about the possibilities and probabilities of impact. This kind of negative publicity can be very damaging to the cause of space science. The Committee has already achieved substantial results in this area, and we hope that during this session the crowning achievement of an agreement on nuclear-power sources will be attained.

Mr. ENOMOTO (United States of America): The United States welcomes this opportunity to express its views on the results of the last session of the Scientific and Technical Subcommittee. I should like to preface my remarks with a brief overview of some of the highlights of this past year in the United States space programme.

Last month the maiden voyage of the shuttle orbiter Endeavour made history when the crew successfully retrieved the stranded INTELSAT-VI satellite. A dramatic space-walk rescue attempt involving an unprecedented three astronauts succeeded, after two attempts to capture the satellite by a single astronaut had failed. The historic mission gave us invaluable experience and information for the future assembly of Space Station Freedom.

I am also pleased to note the continuing United States efforts in global-change research and environmental assessment from space. In August the TOPEX-Poseidon ocean-monitoring satellite will be launched on the Ariane launch vehicle. This international mission between the United States and France will substantially increase understanding of global ocean dynamics. The TOPEX-Poseidon data-set will serve as the centrepiece of the World Ocean Circulation Experiment (WOCE) and will also contribute to the Tropical Ocean Global Atmosphere Programme (TOGA).

In addition, the mission of the Atmospheric Laboratory for Applications and Science (ATLAS-1) flew in April of this year. This mission, which

(Mr. Enomoto, United States)

benefited from Belgian, French, German and Japanese cooperation, conducted studies of the total energy radiated by the Sun, the variability in the solar spectrum and the key molecular species in the middle atmosphere in order to assess their impact on the Earth's climate and environment.

Finally, I should like to note that the Extreme Ultraviolet Explorer (EUVE) was launched earlier this month by a Delta II rocket. EUVE is designed to conduct an all-sky survey for sources of extreme ultraviolet radiation and to study stellar evolution and the local stellar population.

In one of the most exciting discoveries in an already-eventful year, the Cosmic Background Explorer (COBE) satellite of the National Aeronautics and Space Administration of the United States (NASA) produced significant data supporting the Big Bang theory. It identified variations in the average of background temperature of the universe. These variations are critical to understanding how the universe came to have large clusters of matter, and even of galaxies, alternating with large, lightless voids.

In April the Hubble space telescope, built in conjunction with the European Space Agency, celebrated its second year in orbit. The telescope's accomplishments and recent discoveries have made a significant impact on astronomy. New evidence about black holes, quasars and the life cycles of stars have forced scientists to revamp theories about the origins of the universe.

All of these missions demonstrate the important role and contribution that international cooperation can play in further exploration and use of outer space.

With respect to the business of the Scientific and Technical Subcommittee, I should like to express our delight with the special session

(Mr. Enomoto, United States)

devoted to the International Space Year. This is a significant opportunity to reemphasize the importance of international space cooperation in projects like Space Station Freedom, the Hubble space telescope and the TOPEX-Poseidon mission.

We believe it is fitting to mention that Dr. Abiodun, the Expert on Space Applications, and his staff are to be congratulated for their admirable work over the past year.

With respect to agenda item 9, we recognize that the General Assembly has endorsed the recommendation of the Committee that the Scientific and Technical Subcommittee should give the Programme on Space Applications priority consideration. The record of training-course, seminar and workshop activity in the past year, as well as the report on the development of regional Centres for Space Science and Technology Education, reflects the fact that careful consideration and abundant energy have been given the Programme.

My delegation is pleased to note that the Programme's United Nations International Training Course on Remote Sensing Applications for Environmental Assessment and Monitoring, for which the United States acted as host at the Earth Resource Observation System (EROS) Data Center, was successfully conducted in September 1991. We wish to express our satisfaction with the report of the training course contained in document A/AC.105/499. As a complement to the training course, the United States, in conjunction with the Programme on Space Applications, will act as host to a United Nations International Conference on Satellite Remote Sensing for Resource Management, Environmental Assessment and Global Change Studies, at Boulder, Colorado, in August of this year. The work of Dr. Abiodun and the Office for Outer Space Affairs in organizing these two International Space Year events is greatly appreciated.

(Mr. Enomoto, United States)

We remain convinced that Programme activities can play a significant role in helping nations around the world benefit from space applications and science. We look forward to the success of activities planned for 1992, to learning more of those proposed for 1993 and to continued support of the objectives of the Programme on Space Applications.

It is clear that a substantial part of the work generated by the Committee on the Peaceful Uses of Outer Space for the Office for Outer Space Affairs falls to the Programme on Space Applications. That is why we believe that the Programme must be a priority area of the Office's regular budget.

My delegation continues to maintain the position that additional national research is needed in the area of orbital debris to ensure that we understand the nature and scope of this difficult problem. Over the past five years the United States has pursued a vigorous research programme on orbital debris. I am pleased to note that some of the results of this research will be forwarded to the United Nations Secretariat, consistent with the request contained in the Committee's report of last year.

Mr. GONZALEZ (Chile) (interpretation from Spanish): My delegation would like to place on record its appreciation for the important work that the Expert on Space Applications has been performing. The report prepared by Mr. Abiodun provides a complete, objective and comprehensive view of this field, and my country renews its commitment to continued cooperation with him. We are also grateful for the valuable work that the Outer Space Division has been carrying out under the leadership of Mr. Jasentuliyana in providing the necessary organizational framework and in assisting in the organization and implementation of the Second Space Conference of the Americas. This undoubtedly falls within the context of the implementation of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82).

In an interesting statement made yesterday, I believe the representative of India highlighted the need for convening a new World Space Conference in 1995 in a developing country. My delegation was very pleased to hear that statement, but we feel that it is a kind of contradiction when, 10 years after the world Conference in Vienna, we are still trying to determine how to implement some aspects that, technically, may no longer be relevant. Indeed, the evolution and dynamic changes that have taken place in the field of space technology and their importance to the economic and social development of all countries, Third-World countries in particular; the emergence of new and global issues, such as the environment, and their close connection with the benefits of space technology - all these are new elements that should be examined by the entire world community, as they provide a whole new framework.

(Mr. Gonzalez, Chile)

In my delegation's view, therefore, we should heed the appeal made by the representative of India. The year 1995, with all its attendant symbolism, may be the most appropriate time for a new world space conference to be convened; my delegation agrees that the conference should be held in a developing country.

Mr. ENTEZARI (Islamic Republic of Iran): Before commenting on the report of the Scientific and Technical Subcommittee, particularly in the areas of improving the capabilities of developing countries in relation to space activities, I should like to address the matter of long-term and short-term courses, which greatly help developing countries to enhance the qualifications of their experts and restructure their space-related bodies.

According to Mr. Abiodun's report, the Space Applications Programme has received 18 long-term fellowships, offered by Austria, Brazil, China and the European Space Agency (ESA). My delegation appreciates these offers but emphasizes, with respect to the implementation of the recommendations of UNISPACE 82, that the scholarships offered are not yet sufficient to meet the increasing needs of developing countries. In this regard, we also appreciate any other efforts made by the developed countries to follow those recommendations.

My delegation supports paragraph 7 of the report of the Working Group of the Whole and paragraph 27 of the report of the Scientific and Technical Subcommittee, which request that the Outer Space Affairs Division make every

(Mr. Entezari, Islamic Republic of Iran)

effort to increase the number of fellowships. As far as international scientific and technical cooperation is concerned, my delegation emphasizes paragraph 10 of the report of the Working Group, which requests that the Committee ask all Member States, especially the industrialized countries, to inform other countries of space activities that could be subject to greater international cooperation. In our view, such reporting could increase cooperation among countries and enhance mutual understanding in the peaceful uses of outer space.

My delegation is pleased to inform the other representatives - especially developing countries in the region - that the Islamic Republic of Iran, in line with the implemention of the UNISPACE 82 recommendations, is willing to share with those countries its experience in human-resources development and research-and-development activities. The same applies to space-related subjects such as satellite telecommunications and remote sensing, in particular.

Mr. MAYORSKI (Russian Federation) (interpretation from Russian): The Russian delegation would like to join other delegations in commending the work of this year's session of the Scientific and Technical Subcommittee as well the report presented to us at this session by the Expert on Space Applications, Dr. Abiodun.

We asked to speak in order to recall that it will be necessary for this Committee to give the Scientific and Technical Subcommittee some recommendations. In particular, as we understand it, the Scientific and Technical Subcommittee expects from the parent Committee recommendations regarding the further fate of the Working Group on Nuclear Power Sources in Outer Space, as stated in paragraph 62 of the report of the Scientific and Technical Subcommittee. The Committee, in light of the work to be done on the draft principles on the use of nuclear power sources in outer space, must determine whether the work of the Working Group should be continued at the next session of the Scientific and Technical Subcommittee.

I would like to propose that, at this stage, there could clearly be a break in the work of the Working Group. The scientific and technical basis for the legal principles on which we worked in the Legal Subcommittee and on which we may even work at the Subcommittee's forthcoming session have been worked out sufficiently deeply. The main question of nuclear power sources in outer space remains on the agenda of the Scientific and Technical Subcommittee, and perhaps if no new factors or circumstances arise requiring an even more in-depth expert study of the problem, it is just possible that the Working Group, as of next year, might take a break.

The second recommendation expected from us by the Scientific and Technical Subcommittee relates to the agenda of its next session. We have no serious comments to make on that agenda, especially since we deeply believe in

(Mr. Mayorski,
Russian Federation)

the proverb popular in this country that if it ain't broke, don't fix it. Nevertheless, I do think that if we read the agenda of the next session of the Scientific and Technical Subcommittee without any preconditions, we cannot fail to note the fact that it contains 11 items requiring substantive consideration. The session lasts only 10 working days - and therefore 20 meetings - during which time must be found to have a traditional opening statement, to hold a general debate, and to adopt the report. Thus, if we speak objectively and if we take a scientific and technical approach, the time for a serious discussion of each agenda item in the Subcommittee is realistically unavailable.

Please understand me: this is not a criticism or an accusation of anybody. It is a sad recognition of the facts. There are many items and little time. Therefore, without detriment to anyone's interests, our delegation would like to propose to or rather to ask our colleagues in the Committee whose information may be more accurate whether we should not recommend to the Scientific and Technical Subcommittee that it itself, at its next session, once again analyse and assess its own agenda and decide whether or not to consider, for example, some agenda items over a two- or perhaps three-year period. This way, it could rotate the consideration of various agenda items and consequently the agenda at each session could be shortened by six or seven items.

In order to demonstrate the extent to which we are acting conscientiously here, one agenda item that could be rotated is one which in the past was included on the Subcommittee's agenda upon the initiative of the delegation of the Soviet Union. It is the item on questions relating to space

(Mr. Mayorski,
Russian Federation)

transportation systems. That item, I believe, could be discussed once every two years without any damage to our cause. The same holds true for the items on the examination of the physical nature and technical attributes of the geostationary orbit; on matters relating to life sciences, including space medicine; matters relating to planetary exploration; matters relating to astronomy; and, possibly, even the question of remote sensing, which is currently a priority item. I propose that we consider this, and that we might perhaps include in our report a subtly formulated recommendation allowing the Subcommittee, in a constructive spirit, to approach the question of its own agenda.

Finally, I refer to what is written in the report of the Scientific and Technical Subcommittee on the question of space debris, in paragraphs 102 to 105 of the report. I would like to recall once again the reference in paragraph 104 to General Assembly resolution 46/45, which states that the question of space debris could be an appropriate subject for in-depth discussion by the Committee on the Peaceful Uses of Outer Space in the future.

Let us consider, perhaps in adopting our report, when that future time will come. Is it necessary to bring it forward? Perhaps that future time could be next year. As for the Russian delegation, we would be prepared to support a proposal whereby the question related in one way or another to space debris could be included on the agenda either of our Committee or of the Scientific and Technical Subcommittee.

The meeting rose at 12 noon.